

CRACKLIN' STATIC



SIERRA NEVADA Amateur Radio Society

Serving the Amateur Radio Community since April 16, 1968

<http://www.snars.org>

RENO, NEVADA

FEBRUARY 2017

PRESIDENT'S VOICE

Thank you goes out this month to those who not only support SNARS but those who supports the ARRL. We have over 62% of the membership who have indicated are ARRL Members. We thank you for supporting both organizations.

Due to the storms in January we did cancel our monthly breakfast meeting. I did hear there were a few die hards that did make it to Boomtown who did not see their email inbox or listen to the noon net. We encourage members each month to check the club website at <http://snars.org>, tune into the daily noon net and of course to check your inboxes. We will from time to time have to cancel a meeting. We also have a Facebook page, Twitter and Telegram we use to get information out as well.

Join us this month at Boomtown for our monthly breakfast as we will be talking about the Reno Tahoe Hamfest and its status and reasons we have cancelled it this year along with providing an update on the Nevada State Convention in Las Vegas and upcoming information for 2017.

73

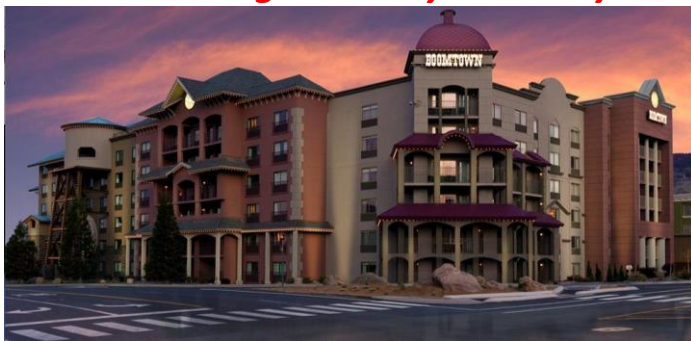
Tony, W7XM

Monthly Breakfast Meetings Sponsored by



BOOMTOWN
CASINO ★ HOTEL
RENO, NV

SNARS meeting Saturday February 4



7:30 AM Boomtown Casino Hotel, I-80 exit 4, Verdi NV, in the Banquet/Conference Center.

This month: Reno-Tahoe Hamfest, NVCON updates



SNARS, P.O. Box 7727, Reno, NV 89510

Membership: \$40 Individual, \$50 Family

OFFICERS 2017

President.....Tony Marcin.....W7XM
Vice President..... Jim Shepherd.....W6US
Treasurer.....Bill Jones.....AE7OX
Secretary.....Rob Dunbar.....NB6C
Director.....Wes Vick.....KG7QXE
Director.....John Byerly.....N7ROJ
Director.....Barry Bettman.....K6ST

STAFF 2017

By Laws Review Committee.....vacant
Club Public Information Officer.....vacant
Control Operators Manager.....W7DED
Cracklin' Static Editor.....WB2AWQ
Meeting Greeters.....AE7OX
History Archivist.....KF7KTC
Station Licensee for KR7ENO.....WB2AWQ
Control Operators FOR KR7ENO.....WB2AWQ
Station Licensee for W7TA.....KE7VSR
Tech Committee Chair.....N7ROJ
Chief VE Examiner.....NN7K
Membership Chairman.....N2MOO
Program Chairman.....vacant
Web MasterW7XM
Facebook Page Administrator.....W7XM
Events (ARES) Coordinator.....WA6MTY
Education Team Chair.....W7XM
Reno Ham Swap.....NB6C
Field Day Co-chair.....KS6A
Field Day Co-chair.....W6US
Audit.....vacant
Noon Net.....KG7QXE

CRACKLIN' STATIC PUBLICATION

E-mail..... holden7471@msn.com

Cracklin' Static is the Newsletter of, and sponsored by the Sierra Nevada Amateur Radio Society. Opinions expressed herein are those of the editors and contributors and should not be considered as official expressions of the Club Officers, Staff or Club Members, or as endorsements by same.

Material for publication may be edited to enhance readability or to save space. We reserve the right to use whatever font size or line spacing may be required in order to publish this Newsletter.

Deadline for input to the newsletter is 1500 hours on the Sunday prior to the 1st Saturday of each month.

Cracklin' Static is e-published in Adobe PDF Format. It may be enjoyed at the SNARS web site.

Amateur Radio License Testing 2017

SNARS, Third Saturday of February, April, June, August, October and December. Testing will be at the REOC located at 5195 Spectrum Blvd., be there at 9 AM sharp! Bill Nichols... NN7K
SIERA CLUB: Silver State Charter High School, 788 Fairview Dr, Carson City..... 3rd Saturday of January, March, May, July, September, and November

.....Dale Anderson, kv7s@charter.net

Elko Area: Third Saturday of January, April, July, October.

11:00AM, Northeast Nevada Regional Hospital, 2001 Errecart Boulevard, Elko, NV w7gk_1@yahoo.com

SNARS Repeater System Frequencies

I-80-Mt Rose Linked System (W7TA)

Reno, Sparks, Carson City (Ophir Peak) 443.075 + 123.0 Normal Operation
Lovelock, Black Rock Desert (Toulon Peak) 146.925 - 123.0 Normal Operation
Winnemucca 146.670 - 123.0 Normal Operation
Reno, Sparks (Virginia Peak) 147.030 + 123.0 Normal Operation
Carson City, Tahoe, Truckee (Mt Rose Knob) 147.150 + 123.0 Normal Op
Reno, Sparks, North Valleys (Peavine Peak) 147.210 + 100.0 Normal Operation
Yerington, Wellington (Lobdelle Peak) 444.875 + 100.0 Normal Operation

IRLP/EchoLink System (W7TA)

Reno, Sparks (GSR) 147.300 + 123.0 Connected to/Status:

Standalone Systems, Ragchew Repeaters (W7TA)

Reno, Sparks 52.580 - 114.8 Normal Operation
Reno, Sparks, Carson City, Dayton (Ophir Peak) 147.390 + 100.0 Normal Op
Reno, Sparks 927.1125 - 114.8 Normal Operation
Reno, Sparks, Carson City (Ophir Peak) 146.610 - 123.0 Not Linked, off air

Digital/APRS Systems (W7TA)

Reno, Sparks, Carson City (Ophir Peak) 145.050 - RNO Normal Operation
Carson City, Tahoe, Truckee (Mt Rose Knob) 145.050 - ROSE Normal Op
Lovelock, Black Rock Desert (Lobdelle peak) 144.390 - TOULON Normal Op

Portable Repeaters (KR7ENO)

Portable System 147.000 - 123.0 Special events only

DMR Digital Mobile Radio

Reno-Sparks 444.925 + CC1 DMR System
Reno, Carson, Dayton 444.825 + CC1
Lake Tahoe, Truckee 443.925 + CC1

C4FM Digital Repeater – YAESU OFF THE AIR

D-Star (N7NDS) NARRI

Reno-Sparks-Carson (Mt Davidson) 444.625 + (Module B)
Reno-Sparks-Carson (Mt Davidson) 145.175 - (Module C)

THE NAME OF THE GAME

Jim Shepherd W6US, nvjims@gmail.com

Software Defined Radios

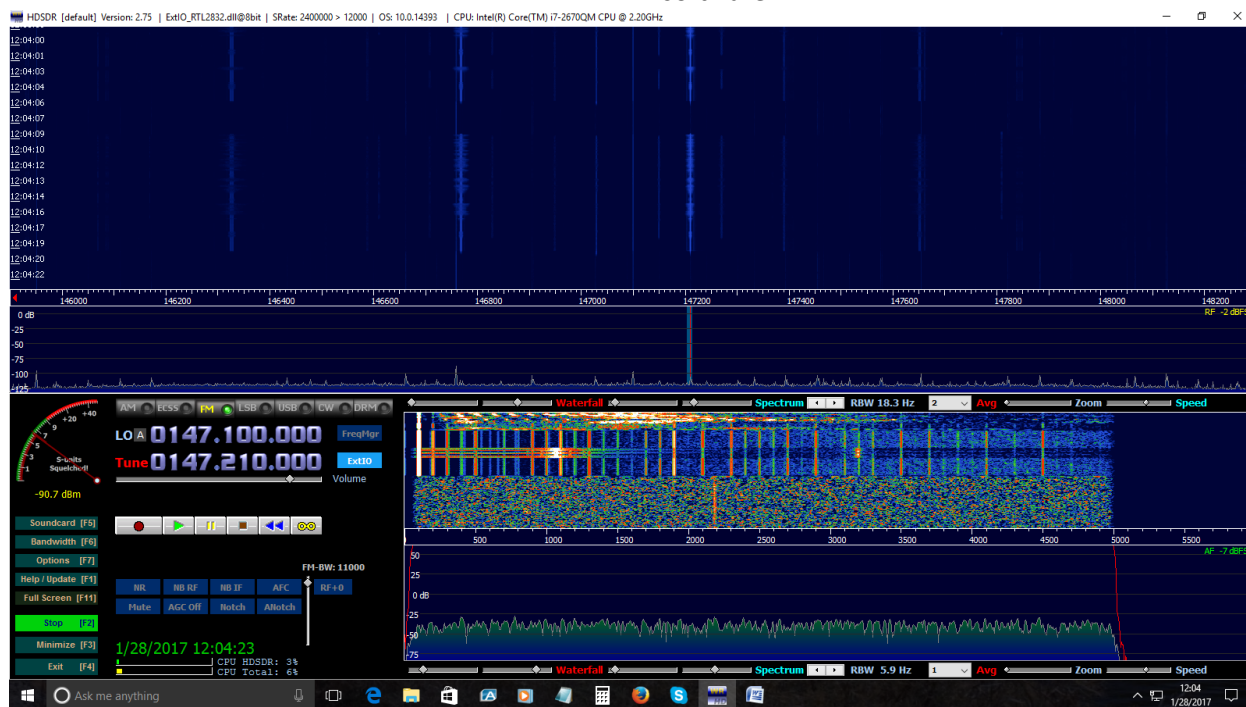
Would you add another receiver to your shack that could receive AM, FM, SSB, CW, and digital modes from about 500KHz to 1.7 GHz? How about one that provides a view of the radio spectrum so you could see other stations nearby in the radio spectrum? With your computer and a \$20 dongle, you can have such a receiver!

Do you want a panadapter for your HF rig? With some inexpensive additional parts and maybe some easy mods you can make one that rivals the ones that cost some real money. Do you want to listen to the nearby repeaters on 900 or 1296 but don't want to fork out hundreds of dollars just to try, then this is the solution. Need a way to

tune filters or an inexpensive spectrum analyzer, this is your ticket.

The RTL-SDR.com brand R820T2 RTL2832U version 3 is one of the best \$20 dongles. They are available on Ebay or Amazon. You will need to download some free software to use it. The two most popular software packages for Windows are SDR# (SDR Sharp) and HDSDR. Links to both of these are at <http://www.rtl-sdr.com/big-list-rtl-sdr-supported-software/> along with a quick start guide that will walk you through the installation process.

Let's look at the 2M repeater band using the HDSDR software—



There are four different displays being shown. The upper display is a view of the radio spectrum from about 146 to 148.2 MHz. The strong signal about in the middle is the 146.21 Peavine repeater. There are two different transmissions on the repeater system shown and you can see a break in the transmissions near the middle and at the bottom of this display. This picture was taken during the Noon Net. You can also see a number of other transmissions at other frequencies across the screen. These are other repeaters in the linked system and the station making the transmission. A few of these are mixer products of the strong signals and other strong radio

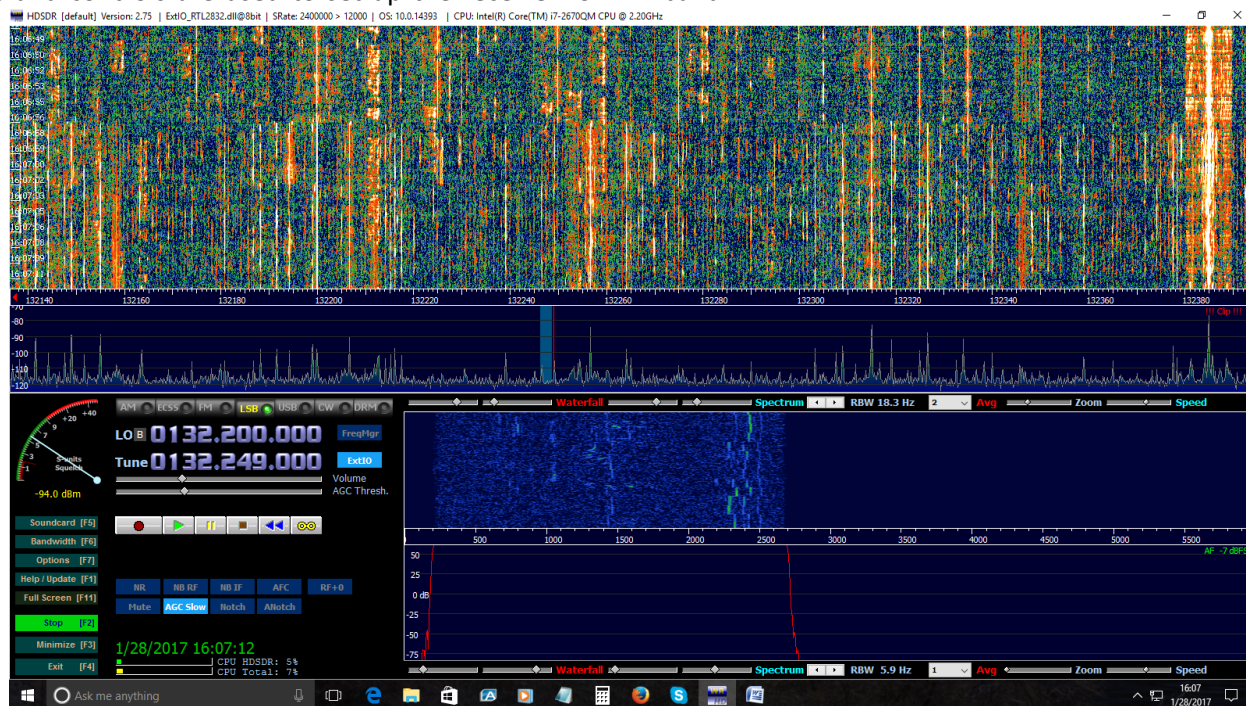
signals... There are also a couple of weak signals that may be coming from other sources like harmonics from other bands or devices like wall warts—you can see these as they continue across the gap between the transmissions.

The next display down shows the received signal strength of signals across the band. This is an instantaneous reading and since the repeaters are not transmitting it shows the low noise levels. The marker at 147.21 shows where I am tuned to listen to the signals. The bottom 2 displays look at the audio frequencies in the received signal.

The box in the lower left shows the S-Meter and that the audio is currently squelched due to no signal. The 'LO' frequency shows the center frequency on the upper display and the 'Tune' frequency shows where I have set the receiver to hear the 147.21 repeater. The other buttons and controls are used to set up the receiver for

the various modes and signal handling like notching and noise reduction.

Here is a shot of the 40M band—I'm using an upconverter so you will have to subtract 125,000,000 from the frequencies to see the actual location on the band.



Lots of signals and you can see the band opening a little more about the middle of the top display. The station at 7249 was readable with a little noise and the brighter vertical lines were S9+. More on HF in a future article.

This is just a quick look at SDR. You can play with a SDR receiver online from a station over at Half Moon Bay on

the California coast. Here is the URL--

<http://69.27.184.62:8901/>

These SDR dongles can be a good way to start with SDR. I'm already looking at rigs like FlexRadio to bring a full featured setup into the shack.

MIKE'S MISSIVES CHAPTER TWENTY TWO

PART 97- Frequency Allocation & Band Plans

Question: What is the difference between a frequency allocation and a band plan?

- A. A *frequency allocation* is the list of frequencies and modes authorized to a licensee. It comes directly from FCC allocations stated in parts 97.301 and 97.305.
Band plans are voluntary recommendations that describe where certain permitted activities are encouraged to take place on a band. Band plans promote more efficient use of our limited spectrum and enable operators to find others with similar interests on the band. For example, Part 97 rules SSTV anywhere on the 10-meter band between 28.300 and 28.700MHz. however, to allow SSTV enthusiasts to more easily find SSTV operations, and to allow a more efficient use of the spectrum, the ARRL Band Plan recommends SSTV on 10 meters to take place at or near the frequency of 28.680 MHz This doesn't mean SSTV operation would be illegal on another phone frequency on 10 meters, but band plans help encourage a more courteous and orderly environment for all operators.

THE SNARS NOON NET

The Noon Net is on 147.030 + and 147.150+, PL 123.0, and 147.210 + and 444.875+, PL 100.0 . The net is held weekly at 1200, Sunday afternoon. This is a Q&A and information net for newly licensed hams and all hams wishing to ask question about different aspects of Ham Radio. It will give new hams in particular a venue for getting on the air in a controlled net moderated by a ham with experience. The net is open to all hams. Questions will be answered and discussed by the more experienced hams on the Net.

Weekly nets on the SNARS repeater systems

SNARS Noon net (daily, 12:00 PM, see below)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0, 444.875 + 100.0

The Morning Net (Monday – Friday at 10:00 AM)

147.300 + 123.0

Bishops Storehouse Net (Monday nights at 9:15 PM)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0, 444.875 + 100.0

North Western Nevada ARES Net (Tuesday nights at 7:00 PM)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0, 444.875 + 100.0

State SATERN Net (Tuesday nights at 8:00 PM)

147.300 + 123.0

State SKYWARN Net (Wednesday nights at 7:00 PM)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0, 444.875 + 100.0

Northern Nevada Preppers Group Net (Wednesday nights at 8:00 PM)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0, 444.875 + 100.0

State ARES Net (Thursday nights at 7:00 PM)

147.300 + 123

Logistics Section Chief Needed for Field Day

This year's Field Day event will be held Friday, June 23 through Sunday, June 25 at Washoe Lake State Park. We have the same location that we had last year in the equestrian area. Due to the lack of tall trees in that section of the park, W6US will be bringing his tower trailer again to help with a tall support for antennas. We need a Logistics Section Chief to manage the camping part of this event. The Logs Chief will appoint a Food Unit Leader to make sure that all the participants are well fed and hydrated, and a Facilities Unit Leader to help erect additional shelters and other facility issues. Logs will assign other personnel as needed. Logs will assist the Food Unit Leader with the purchasing of the food and drink for the event. The Logs Chief will need to be available from Thursday through Sunday of that weekend as well as present at planning meetings in advance of the event. If you are interested in this position, please contact Jim Shepherd, W6US, at nvjims@gmail.com.

SNARS CALENDAR

SNARS monthly meeting (breakfast!)

Saturday, Feb 4th, 8:00 AM

Boomtown Casino Hotel, I-80 exit 4, Verdi NV

Board of Director's Meeting - SNARS

Wednesday, Feb 15th, 2016 6:00 PM - 7:00 PM

Washoe County Regional Emergency Operations Center,
5195 Spectrum Blvd Reno, Nevada 89512

One Day Ham Cram (Test Question Review and final exam) Feb 18th

Washoe County Regional Emergency Operations Center,
5195 Spectrum Blvd Reno, Nevada 89512

FUN STUFF FOR FEBRUARY

Looking for some excitement on the bands during the winter? There's something for everyone on the air!

4 Feb 0001 to 5 Feb 2359 28 10-10 International Winter Contest Ph www.ten-ten.org

5 Feb 0000 to 5 Feb 0400 3.5-14 North American Sprint, CW www.ncjweb.com/Sprint-Rules.pdf

11 Feb 0000 to 12 Feb 2359 3.5-28 CQ WW RTTY WPX Contest Dig I www.cqwprrtty.com/rules.htm

13 Feb 1300 to 17 Feb 2359 All ARRL School Club Roundup CW Ph Dig www.arrl.org/school-club-roundup

18 Feb 0000 to 19 Feb 2359 1.8-28 ARRL International DX Contest, CW www.arrl.org/arrl-dx

NAME THAT RIG



(Answer on page 6)

WELCOME NEW SNARS MEMBERS

18 Feb 0000 to 26 Feb 2359 3.5, 7, 21, 28, 144 Novice Rig Roundup CW www.novicerigroundup.com

25 Feb 1800 to 26 Feb 0559 3.5-28 North American QSO Party, RTTY www.ncjweb.com

For a full list of contests, see:
<http://www.arrl.org/files/file/Contest%20Corral/February%202017%20Corral1a.pdf>

If you're not into contests, there's always DX to chase, and February has some good ones! Some of the better DX operations coming up in December:

Feb01 to Feb14 **Central African Rep TL8TT**

Feb01 to Feb14 **Mauritius 3B8HE**

Feb01 to Mar03 **Senegal 6W2SC**

Feb02 to Feb08 **Cyprus SBA ZC4A**

Feb03 to Mar11 **Rwanda 9X2AW**

Feb05 to Feb26 **Guinea 3X**

Feb06 to Feb18 **Namibia V5**

Feb08 to Feb10 **Iran EP2C**

Feb10 to Feb17 **Easter Is. CE0Y**

Feb13 to Feb26 **Macao XX9D**

Feb13 to Mar03 **Austral Is. TX5T**

Feb17 Feb21 **Palau T88DT**

Feb21 to Feb24 **Juan Fernandez CE0Z**

Visit <http://www.ng3k.com/Misc/adxo.html> for current info and full lists!

New Members for January 2017

Bruce	Cooper	W7BDC
Tina	Christianson	KF7BNR
Eric	Christianson	AF7CE
Bob	Yandow	K7GUU
Andrew	Raike	KE6HID
John	Snow	KI7JAA
Christopher	Griego	KI7JMJ
Jason	Peterson	KI7JMO
Mark	Crumrine	KI7JMP
William	Vineis	KI7JMQ
Jen	Churchward	KI7JMS
Harry	Churchward	KI7JMU
Andy	Moss	

Total Members as of January 30, 2017 - 330

NAME THAT RIG (from pg 5)

Prior to the early 70s, Novice class licensees were limited to crystal control. The transmitters aimed at Novices did not usually have a built-in VFO, but most could be driven by a VFO. While there were a number of external VFOs on the market, the ones pictured here were the most popular through the 50s and early 60s. Left to right – the Heathkit VF1 (replaced by the HG-10 around the mid 60s), the Johnson VFO122, and the Eico 722. All were suitable to properly drive most Novice transmitters of the era with little or no modification. Although a pricey addition in their day (\$50 to \$80 generally), these units made it possible for a recent General class licensee move to the General portions to work DX, phone, etc. without having to spring for a new transmitter. Many of these VFOs are still in use today, sought after by collectors of older radios.

* * * * *

ARES NEWS

KA7FOO 1 Day Topics Series
 "Doug Talks"
 Where Regional Emergency Operations Center (REOC)
 5195 Spectrum Blvd Reno, NV 89506
 Who You - Student
 Who Me - Instructor
 Why To further your / our knowledge

When _____ What _____

Jan 26 Thr 1800 - 2100 NTS Formal Traffic Handling
 Jan 28 Sat 0900 - 1200 HF Digital Basics
 Jan 28 Sat 1200 - 1500 HF Digital Advanced
 Feb 2 Thr 1800 - 2100 Net Control Station
 Feb 9 Thr 1800 - 2100 Portable Station
 Feb 16 Thr 1800 - 2100 Ham Station Computer Network Security
 Feb 18 Sat 1400 - 1600 Radio and Antenna Selection
 Feb 23 Thr 1800 - 2100 How to Assemble a Station Basics
 Mar 2 Thr 1800 - 2100 Migrating to HF
 Mar 9 Thr 1800 - 2100 From Grounding System to Antenna System
 Mar 16 Thr 1800 - 2100 TBD
 Mar 18 Sat 0900 - 1500 Antenna Design & Theory
 Mar 23 Thr 1800 - 2100 TBD
 Mar 30 Thr 1800 - 2100 TBD
 Mar 31 - Apr 2 Fri - Sun NV Con in Las Vegas

February 18th is my next One Day Ham Cram (Test Question Review and final exam)

Everyone interested must go to www.snars.org/classes and sign up so I can have enough handouts. You MUST sign up by February 17th! (Editor's note: Check the website or with WA6MTY for start/test time)

2017 Communications Event Schedule

EVENT 2017	DATE	DATE END	SPONSOR/ORGANIZER	COORDINATOR	CONTACT
Reno 5000 -1	4/3/17		Dolan Auto Group	Bob Miller WA6MTY	wa6mtty@gbis.com
Silver State 50/50 race	5/20/17		Silver State Striders	Steve KS6A	ks6a@sbcglobal.net
America's Most Beautiful Bike Ride	6/4/17		Tahoe Amateur Radio Assn	Paul McCaffee	paul.mcafee@att.net
Pony Express Re-Ride	6/5/17	6/15/17	SIERA		http://www.cvhams.com/contact.php
FIELD DAY	6/24/17	6/25/17	SNARS		holden7471@msn.com
Reno 5000-2	6/25/17		Dolan Auto Group	Bob Miller WA6MTY	wa6mtty@gbis.com
Death Ride	7/8/17		Tahoe Amateur Radio Assn	Paul McCaffee	paul.mcafee@att.net
Tahoe Rim Trail	7/14/17		Tahoe Mountain Milers	Bob Miller WA6MTY	wa6mtty@gbis.com
Round Valley Walk/Run	TBD		Plumas ARC	Larry Trotter KI6YUK	dltrotter@sbcglobal.net
Running With the Bears	TBD		Plumas ARC	Larry Trotter KI6YUK	dltrotter@sbcglobal.net
Reno 5000-3	8/27/17		Dolan Auto Group	Bob Miller WA6MTY	wa6mtty@gbis.com
Tour De Tahoe	9/10/17		Tahoe Amateur Radio Assn	Paul McCaffee	paul.mcafee@att.net
Reno Air-Races	9/13/17	9/17/17	WC-ARES	Rick Russell KF7KEM	wa6mtty@gbis.com
Edible Pedal 100	9/17/17		Sunrise Rotary Club	Bob Miller WA6MTY	wa6mtty@gbis.com
Grinduro	10/7/17		Plumas ARC	Larry Trotter KI6YUK	dltrotter@sbcglobal.net

NOTE: Plumas ARC always have a need for operators. Go over to some beautiful country and help out the Plumas Amateur Radio Club

Bob Miller WA6MTY
 Amateur Radio Emergency Service
 Emergency Coordinator
 775 843-5952 www.wcares.us

FEATURED PRODUCT

This package is an unbeatable deal!
Here are some features:

- Vertical antenna (80-2 meters)
- 150 watt PEP capacity
- 25' counterpoise w/ winder
- Jaw-mount bracket (for horizontal or vertical mounting)
- PL-259 connector

SNARS PRICE: \$89.95

REGULAR PRICE: ~~\$99.95~~

ABOUT US...

We carry a variety of new products such as antennas, mag mounts, switches, coax cable, connectors, and more.

We also have a wide selection of both vintage and modern ham gear, which you are more than welcome to peruse at your leisure. From Collins to Elecraft, you never know what we'll have on our racks!

If you're looking for anything particular, give us a call and we'll add you to our "wanted" list. The next time we find that specific piece, we'll give you a call *before* it's listed for sale anywhere else!

Ham&HiFi

155 Glendale Ave
Suite 12
Sparks, NV 89431
775-386-2506
www.hamandhifi.com

WE BUY EQUIPMENT

We are always buying used equipment whether it's ham gear, high fidelity audio, tubes, or test equipment. Whether it's vintage tube equipment or the latest product on the market, working or not, near or far, we would love to hear from you. Give us a call for more information!



Board of Directors Meeting

January 18, 2017 - 5:58 PM

Washoe County Regional Emergency Operations Center
Board Room
5195 Spectrum Blvd, Reno

DRAFT MINUTES - To Be Approved on February 15, 2017

1. Call to order at 6:00 PM

Anthony Marcin, W7XM	Yes	Barry Bettman, K6ST	No	Rob Dunbar, NB6C	Yes
Bill Jones, AE7OX	Yes	John Byerly, N7ROJ	No	Wes Vick, KG7QXE	Yes
Jim Shepherd, W6US	Yes				

Visitors

2. Approval of Minutes

- NB6C moved to approve the minutes from the November 16, 2016 Board of Directors meeting. The motion was seconded by W6US and the motion passed.
- NB6C moved to approve the agenda as presented. W6UA seconded the motion and the motion passed.

3. Reports

A. President's Report -

- We should come up a MOU of operations of SNARS repeaters with ARES.

B. Secretary Report

- a. Status Report – This is the first meeting of the new board.
- b. Change of Organization Type from Chapter 81 to Chapter 82 – NB6C will look over documents prepared by W7XM.

C. Membership Coordinate

- a. 328 members. Added 13 new members in January. New hams are 13% of club membership and 60% members are ARRL members.

D. Treasurer

- a. Balances as of December 31: Checking: \$10,791 Savings: \$3,243 PayPal: \$1,781 Trust Fund: \$9,991 a total of \$25,062.

E. Technical Committee - Report

- a. Waiting on Peavine package New 147.210 repeater controller and duplexer are almost done and trying to get ready before we get snowed out.
- b. SNARS may install a VHF repeater on Lobdell Summit.
- c. Swap the current repeaters on 146.61 and 147.39.
- d. N7ROJ walked the Grand Sierra to see what is needed to install network connection to IRLP box.
- e. 147.300 on Grand Sierra is off the air. Tech team to go up and investigate.
- f. NDOT has donated a server that will be used for C-Bridge and probably installed on Peavine.

F. Control Operators / Trustee - Report

- a. WA7DG trustee is up for renewal. Going to ask W7DED to be the new trustee.

G. Events

- a. Field Day 2017 – Washoe Lake State Park Equestrian Area June 23 thru June 25.
- b. Reno-Tahoe Hamfest – Postponed until 2018.
- c. Reno Ham Swap. Sometime in May

H. Education Team

- a. HF education team on going.
- b. Technician class coming up in March.
- c. DMR class on January 24 at REOC.

I. Noon Net

- a. Status – Going strong.

J. HF Team

- a. Kit building class coming up

4. New Business

- A. NVCON – Raffle Prize
 - a. Review Raffle prize
- B. Use of Telegram Messenger by Board – No complaints
- C. Membership Options
 - a. Associate member – new membership class for non-hams. This will be a non-voting member.
 - b. Discussion on new hams membership.
- D. Planning Committee – Discussed if the Board should have a retreat to plan for future.

5. Next Meeting

- A. The next meeting will be February 15, 2017 - Wednesday at 6:00PM - Washoe Regional Emergency Operations Center

6. Public Comments

None

7. Adjournment at 6:56 PM by W6US 2nd by KG7QXE

Sierra Nevada Amateur Radio Society, Inc

2017 Nevada State Convention - ARRL Nevada Section - Las Vegas

WIN A DMR SUPER PACKAGE



Shark openSPOT, MD380 DMR HT, TP-Link 802N Router, Jackery Battery.

Visit our SNARS Booth at NVCON!

Your ticket enters you into a **SNARS DMR Super Package** which includes all the components for a DMR portable hotspot.

No Need to be Present for Raffle.

The drawing will be held on Sunday, April 2nd at the Nevada State Convention in Las Vegas, NV after the ARRL Forum.

Tickets on Sale Today!

Tickets are available from any SNARS Board of Directors, and at the SNARS Booth at the Nevada State Convention March 31 through April 2nd, 2017.

Proceeds of the Raffle will benefit the SNARS DMR Fund